

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/001259

International filing date (day/month/year)
24.03.2004

Priority date (day/month/year)
31.03.2003

International Patent Classification (IPC) or both national classification and IPC
B01D39/16, B01D27/02

Applicant
SELSDON, Leslie Donald

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/GB2004/001259

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/001259

Box No. II Priority

1. ☒ The following document has not been furnished:
- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
 - ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).
- Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-13
Inventive step (IS)	Yes: Claims	
	No: Claims	1-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Ad Item V.:

- 1.1 The use of a foam material for **removing oil from water** is well-known to a person skilled in separation technology. Furthermore, it is known to trap solid particles from oil in reticulated foam plastics material (cf. oil filter described in GB-A-2.177.316 (D5)).

The present application is directed to a filter for **removing water** and solid particles **from oil** (or fuel etc.) by use of a (polymer) foam material. Since the water should be **absorbed**, it is understood that the foam material of the present application should be a so-called **superabsorbent** polymer (SAP). This is confirmed on page 3 of the present application, because Luquafleece is a SAP.

- 1.2 It is further noted that the filter of the present application is also suitable for removing water from gases (see page 2, last sentence).
- 2.1 WO-A-84/00901 (D3) relates to a filter for removing liquid particles (droplets) from a gas stream by a SAP-foam (see claims 1 and 3). Obviously, this known filter is novelty-destroying for the subject-matter of claim 1 of the present application (Art.33(2) PCT). The same applies to claim 3.
- 2.2 DE-A-19.605.431 (D4) discloses a fuel filter comprising a outer foam layer for removing solid particles and an inner SAP if form of granules, fleece or web for absorbing water. D4 does not mention a SAP foam. However, a SAP can be in any suitable form. Thus, with respect to D4 alone, the subject-matter of claim 1 of the present application lacks inventive activity (Art.33(3) PCT).
- 3.1 The most relevant document appears to be WO-A-99/56871 (D1). D1 is directed to a filter cartridge for separation of moisture from eg. oil, fuel, cleaning fluids and the like (see page 1, first paragraph) by a SAP material which can be in the form of an open cell foam (see page 7, lines 9 to 23). Thus, regarding D1, the subject-matter of claim 1 lacks novelty (Art.33(2) PCT). The same applies to dependent claims 2 to 13
- 3.2 The applicant's attention is further drawn to WO-A-03/022398 (D2). D2 also

mentions an oil filter for removing water comprising a filter material which can be an absorbent polymer (SAP) in the form of foam (see page 7, lines 11 to 15).

- 3.3 The features of the remaining dependent claims constitute well-known measures in filtration technology and thus reveal no inventive aspects.